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For Our Future)

**Comments of One Economy Corporation
National Digital Literacy Initiative**

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I. One Economy Background

One Economy (www.one-economy.com) is a global nonprofit that uses innovative approaches to deliver the power of technology and information to low-income people, connecting them to valuable tools for building better lives. Since One Economy's founding in 2000, our mission has been to maximize the potential of technology to help low-income people improve their lives and enter the economic mainstream. We help bring broadband into the homes of low-income people, employ youth to train their community members to use technology effectively, and create public purpose media that inspires, informs and engages. Over the past nine years, we have delivered programs and services in fourteen countries on four continents.

One Economy's work has centered on the following areas:

Digital Connectors

For the past seven years, One Economy has trained youth aged 14-21 to provide digital literacy resources by functioning as technology trainers and ambassadors in underserved communities. Our Digital Connectors program overcomes digital literacy barriers by leveraging the talent and reach of youth to serve as both early adopters of technology and as teachers in the home and in the community. By structuring the youth experience to include service, education, and career pathways, the youth improve adoption rates while also gaining valuable work experience. One Economy's Digital Connectors program works with local community partners to engage underserved, at-risk teens and young adults in leadership development, media literacy education, life skills management, and community service. Furthermore, through learning about their communities, thinking critically about how technology affects their lives, and practicing team building and leadership skills, youth are able to practice lifelong principles that inspire educational advancement and citizenship.

Digital Connectors master both technical and digital literacy competencies. Additionally, they examine college and career options by taking field trips, observing workers in information technology and digital arts occupations, and hearing guest lecturers in these fields that continue to grow despite the current economic downturn. These experiences further enhance the job skills and broaden the career choices of Digital Connectors.

Digital Connectors are motivated by community service. A major program element is a requirement to give back to their families, friends and communities what they learn. To date, over 3,000 Digital Connectors have provided more than 56,000 hours of community service nationwide. Newly named, these DigiSquads return to their neighborhoods and teach community members how they can improve their lives through the use of technology.

One Economy provides each Digital Connectors site with curriculum, which includes an affiliate guide and instructor manual. The curriculum covers 12 core competencies and encourages active inquiry and hands-on, project-based learning while recognizing that students have different learning styles that need to be accommodated. The curriculum consists of six modules with lesson plans, handouts, and other resources that can be adapted according to individual and group needs and experience. The curriculum supports 160-200 hours of instruction for delivery during the summer or the school year. Each Digital Connectors community instructor participates in a mandatory regional training led by One Economy, and each trained instructor can tailor the curriculum to meet a site's specific needs.

Public Purpose Media

During the past nine years, we have created a network of public-purpose media focused on vital issues like health, jobs, finance, education, and civic engagement. The Public Internet Channel (www.PIC.tv) and the Beehive (www.theBeehive.org) engage, inform and facilitate individual action, and together, they have been visited by more than 18 million individuals, many first time Internet users. Relevant content is essential to a comprehensive approach to digital literacy. Our consumer-centric content is designed to engage, inform and facilitate action. It focuses on life-sustaining and life-enhancing topics such as health care access, education support, job market access, skills development, entrepreneurship and civic engagement.

Digital Connectors can further increase digital literacy by using our online tools when they are training community members. By equipping low-income individuals with information to make decisions and a means to express their needs and opinions, technology can become and is becoming a democratizing force.

Broadband Access

The home is the essential place to deliver 24/7 access to broadband. For the past eight years, One Economy efficiently deployed broadband solutions into affordable housing developments. One Economy works with top-of-market partners to facilitate the deployment of broadband into the homes of low-income individuals. We focus on creating affordable options so that the poor can acquire the connectivity and hardware they need to be part of the digital age. One Economy has worked with more than 50 communities around the world to build digital inclusion programs including free or low-cost Internet access, affordable computers, and building the capacity of local organizations that integrate technology into their work. As a result of our efforts, more than 350,000 Americans now have affordable broadband in their homes.

II. Executive Summary

One Economy proposes the creation of a National Digital Literacy Initiative (NDLI), a 21st century information ecosystem to expand digital literacy in the United States. This Initiative is geared to break through one of the largest barriers to adoption in underserved communities while simultaneously accelerating the ability of low-income individuals to contribute, compete, and innovate in the global marketplace. Digital literacy education is a pathway to information and a voice in a digital age, in addition to delivering a Social Dividend by stimulating an underserved sector of the economy, providing a gateway to 21st century jobs, and enhancing socioeconomic benefits to that underserved sector and the United States as a whole. The NDLI targets marginalized communities, with a specific focus on low-income and minorities, the English as a Second Language community, seniors, Americans with Disabilities, and tribal communities to deliver targeted digital literacy efforts geared at the needs of the target population, in that particular geography.

We will launch a four-prong effort of programs, awareness, policies, and metrics. This section provides an overview of those elements, with the details provided in the body of the document. To get to our recommendations, we leverage knowledge garnered from nearly a decade of providing digital adoption and digital literacy solutions, the collective knowledge of our partners, and successes and failures in the domestic and international arena.

Programs

At the center of the NDLI are programs that deliver a “meet you where you are” digital literacy curricula and information dissemination agenda. We have divided these programs into their distribution elements: in the community, in the school and educational continuum, and in the online and mobile channels. Each distribution element is mentioned in brief below.

Expanding the Digital Connectors

Our recommendations build on nearly a decade providing digital literacy, media literacy, and technology curriculum to 14-21 year-old youth from low-income families, then empowering these youth as technology ambassadors in their community. The NDLI harnesses the power of youth as technology ambassadors for their communities. It builds upon our experience creating multiple, scalable distribution points and top tier partnerships from the non-profit, for-profit, and government sectors. Our groundbreaking partnership with the Broadband Opportunity Coalition (BOC) – including the National Urban League, National Council of La Raza, Asian American Justice Center, League of United Latin American Citizens (LULAC), National Association for the Advancement of Colored People (NAACP), and the leading minority research and public policy think tank Joint Center for Political and Economic Studies – has allowed us to extend our reach into communities via a franchising and teach-the-teacher model. Meanwhile, we will be able to further extend our relationships into the private sector because we both share a desire to

increase demand, and thereby subscribership, among previously underserved communities. We propose expanding this program's geographic reach into underserved and vulnerable communities nationwide, refining our robust curricula to reach the targeted segments mentioned above, further integrating behavioral curriculum and motivation into our approach, increasing technology and entrepreneurial opportunities for Digital Connectors, and expanding the program to a wider age group. This community-based effort will be at the forefront of our strategy to promote digital literacy.

Digital Educators and the Teacher-Parent Relationship

We propose a targeted program toward our educational system, focusing curricula on the technology ambassador role that teachers, educators, and administrators can play, then integrate them as key digital touch points for students, parents, teachers, and administrators. This program will not only educate teachers on digital literacy; it will be designed to create or stimulate a continuum of learning from school to after-school to the home, in addition to easing the pathway for online learning for children and young adults.

From a teacher's fear of handling new technology to an administrator's unwillingness to test or adopt new technology, digital illiteracy in the schools is something that a 21st century United States cannot afford. To improve results for students, Digital Educators will be empowered to teach the digital tools that will enable a 24/7 learning environment and drive home the importance of online research, online education, and student-parent collaboration at home. The program will also tie in to after-school or Digital Connector curriculum opportunities for youth to explore entrepreneurship and technology development. In providing digital literacy training for adults, we will bolster the parent-student collaboration via contextually important life skills curriculum that deal with finance, employment, education and health care. For instance, parents may attend a training session about managing family finances, but in a context that shows them how to take advantage of online tools to achieve those goals. And to ensure smooth and effective delivery of the curriculum, parents will be able to opt-in to pre-requisite training on computer and Internet basics. For other teachers, administrators, and even technology procurement agents, a focus on the school can help lift the barrier to technology adoption in the schools.

Online and Mobile Digital Literacy

To meet people where they are, when they most need the digital literacy assistance, we propose developing easy-to-use, multilingual online and mobile content created at a low literacy level. This content (and applications) will help guide individuals as they attempt to access digital content, beginning with consumer-first solutions delivered through One Economy's Beehive (thebeehive.org), Public Internet Channel (pic.tv), and mobile content and applications. Online and mobile content will include

information on the basics of Web browsing, searching online, shopping and Internet safety for adults and children, the use of social media applications, texting, and the use of mobile applications. Like all content on the Beehive and the Public Internet Channel, we will cater to different learning modalities through the use of multiple media delivery vehicles; including multilingual audio, video animation, and illustration.

Mobile efforts will focus on the devices and operating systems used, or aspired, by our target population, and they will take into account SMS and WAP-based delivery, in addition to advanced mobile Web sites, downloadable applications, and video. Mobile will also include crowdsourced solutions such as Amazon's M-Turk for customized answers to the pressing questions that inhibit digital adoption. Delivered contextually and modified to meet the operating systems dictated by the individual, this ubiquitous distribution venue will also extend the reach of the NDLI to any person who needs support.

Awareness

A directed marketing campaign is imperative to the NDLI so that we make people aware of the vital role that being connected will play in their lives and the availability of resources to solve the digital literacy chasm. This awareness effort will drive home the importance of the life-sustaining and life-enhancing content – from education to health to jobs – and it will help make digital “cool” in the communities that need it the most by connecting the content and applications with individuals, devices, and opportunities that are held in high regard by the targeted community. The goal of branding efforts will be to drive home the need to be online and develop the skills needed to traverse the digital world. The awareness campaign will also direct individuals to on-the-ground and online or mobile resources to gain digital literacy, as stated in the Programs section. As with our proposed efforts with the BBOC and private entities, we recommend a multi-media campaign featuring press, television, radio, online, and events, in addition to grassroots efforts.

Policies

To support the NDLI, we also outline a series of policies that will help fund the program, stimulate digital literacy, create a culture of adoption around digital literacy, and develop synergies across agencies.

Metrics

Though there were numerous international digital literacy success stories and recommendations, most efforts to date have lacked sufficient foresight on the metrics to measure and have not captured robust data. A thoughtful eye to metrics and data collection will not only allow the FCC, other agencies, and providers to benchmark success, but it will also enable test and expansion, or retrenchment, along the way.

We recommend the 3Us as guiding principles for a successful program:

- Ubiquity – how many individuals are served by digital literacy efforts
- Usage – how do digital literacy support efforts increase trial and usage of broadband content and applications, including data usage and the usage of life-sustaining and life-enhancing content on education, health, and jobs
- Utility – how are outcomes in education, health, jobs, public safety, personal finance and the environment improved by digital literacy efforts

The NDLI success should be defined by the sum of successes and failures for the individuals acting as technology ambassadors and the persons who benefit from these ambassadors and the online and mobile content that they access.

III. Need Case

Over the course of the previous 10 to 15 years, the Internet has grown into a valuable and rich resource for business, education, employment, health matters, civic engagement, and fostering social connections. As the Internet continues to become an integral, ubiquitous component of society, it is critical that people develop and enhance their digital literacy skills. To date, the primary divide of the digital age has been the “haves” and “have-nots.” Though the issue of broadband adoption remains a serious concern, it is imperative that attention also be devoted to avoiding a second digital divide as we move forward in the digital age – those who possess digital literacy skills for the 21st century and those who do not.

In this increasingly knowledge-based society, highly dependent on computers and the Internet, possessing digital literacy skills is an essential competency necessary for professional advancement and personal prosperity. For those who do not possess these skills, they have less access to valuable information and resources. This population is finding themselves at a tremendous disadvantage in the academic arena and labor market. Furthermore, this dearth of skills results in them being unable to access health information and public services, become empowered citizens, and remain in close contact with friends and family.

The NDLI has identified and will focus on the following target groups:

Youth

Youth must be a focus of digital literacy efforts and are at the center of most NDLI initiatives, since they serve as early adopters of technology and the fulcrum for technology engagement in the community. Digital literacy is vital for education and 21st century skills, in addition to the obvious return on investment argument concurrent with their expected life span. To access online academic resources, it is imperative that students cultivate digital literacy skills. Furthermore, employers are requiring their employees to be digitally literate.

Low-income and Minorities

Home broadband adoption is 35% for individuals with household income below \$20,000 and 53% for individuals with household income between \$20,000 and \$30,000. Though the price for broadband is a reason that 35% of individuals with less than \$20,000 income and 20% of individuals with \$20,000 to \$30,000 income don't have broadband, relevance and usability, taken separately, have almost as much impact. Combined, the effects of these two elements are likely much greater than price. African-Americans are hit hardest by the digital divide, with 46% of African-Americans having broadband at home compared to 65% of white Americans.¹ African-Americans are utilizing mobile phone data usage more than the general population, but this is likely due to a lack of broadband access at home and

¹ Horrigan, John. “Home Broadband Adoption, 2009.” Pew Internet & American Life Project. June 2009.

the usage is often SMS as opposed to mobile Web usage. The primary issue with Hispanic Americans appears to be among those where English is not the primary language, as discussed in the following section. Those without digital literacy skills will be at a distinct competitive disadvantage in the global marketplace: for instance, 80% of all Fortune 500 companies only accept applications online.²

English as a Second Language (ESL)

Digital literacy's greatest need in the Hispanic community is around the ESL community and those who prefer Spanish language content: only 32% of Spanish-speaking Hispanic adults use the Internet, as compared to 76% of English or bilingual Hispanic adults.³ The divide is most prevalent among Spanish-speaking and bilingual Hispanic women, where 42% prefer Spanish language content as opposed to 29% of men in the same category.⁴ Overcoming the English-dominated content, search, and digital literacy tools is a major barrier to entry for this group, including the contextual relevance and behavioral needs of the digital literacy approach.

Elderly

As the Baby-Boomers age, the elderly population in America will dramatically increase. The necessity for and desire of many senior citizens to "Age-In-Place" will also increase. The value in maintaining social connections with friends and family, accessing online health information and resources, or communicating with their health professional, will become pronounced. Consequently, it is crucial that this population develop digital literacy skills to accomplish all of these activities. Internet usage among seniors falls from approximately 90% among 18-29 year-olds to below 60% among 60-69 year-olds⁵, and then drops off further among subsequent age groups. Additionally, broadband subscribership at home among 65+ year-olds was only 30%, far lagging the rest of the population.⁶ Seniors often consider the Internet irrelevant to them, too difficult or awkward to approach, or full of viruses, SPAM, and rip-offs.

Americans with Disabilities

Internet usage among people with disabilities is about 50% of that of the general population. Meanwhile, 60% of working-age Americans with disabilities are not

² Taleo Research - <http://www.taleo.com/research/articles/talent/don-miss-the-next-strategic-turn-115.html>

³ Fox, Susannah and Gretchen Livingston. "Latinos Online." Pew Internet & American Life Project. March 2007.

⁴ Hispanic Market Advisors. "Spanish Speaking Internet Users Growth Outpacing the World Average." August 7, 2009. (<http://www.hispanicmarketadvisors.com/blog/07-29-09/spanish-speaking-internet-users-growth-outpacing-the-world-average.html>)

⁵ Fox, Susannah. "Are 'Wired Senior' Sitting Ducks?" Pew Internet & American Life Project. April 2006.

⁶ Horrigan, John. "Home Broadband Adoption, 2009." Pew Internet & American Life Project. June 2009.

fully employed, and therefore more likely to fall into the low-income bracket.⁷ This population faces significant digital barriers, including difficulties specific to persons with hearing, vision, or other mental or physical disabilities.

Tribal Communities

In 2007, the broadband adoption rate of American Indians and Native Alaskans was 30%, the lowest adoption rate of any ethnic group studied by the Census Bureau.⁸ Population density often makes broadband service insufficient or cost-prohibitive, and contextual or cultural differences lead to inadequate content and a large digital literacy barrier. Yet, geographic isolation and cultural differences only increase the potential promise of broadband in bridging content, application, and communication gaps.

The value of a digitally literate populace is increasingly critical for the prosperity of the individual and nation. With more resources and services becoming accessible solely online, having a class of citizens unable to engage in this pervasive medium and invaluable tool will only further separate the advantaged from the disadvantaged.

⁷ Communication Workers of America and American Association of People with Disabilities. "High-Speed Internet and People with Disabilities." 2009.

⁸ Federal Communication Commission. "Bringing Broadband to Rural America: Report on a Rural Broadband Strategy." May 2009.

IV. International

As illuminated above, in the United States, digital literacy issues have not been sufficiently addressed and require significant expansion of scope. Internationally, digital literacy has flourished, with numerous successes, all the while delivering insight on how to adjust, expand, and increase the focus on metrics for success. International digital literacy efforts have had a positive and marked impact on vulnerable populations who were left behind by the first wave of the digital age.

Digital literacy efforts have come both from governments as part of their overall national information and communication technology (ICT) strategy and from non-profit or non-governmental organizations. Many, if not most, of these programs have focused on either one or more sectors of society that are in need of direct assistance and instruction, including the elderly, unemployed, disabled, immigrants, women, and youth. Though the mechanics of these programs may differ, the common theme running throughout is one of increasing digital literacy skills to leverage the utility of ICT and improve their lives, whether that be increasing or improving social/familial interaction, civic engagement, education, or employment.

In November 2008, the California Emerging Technology Fund produced a report that studied international digital literacy programs, so as to provide guidance on how best to design a digital literacy initiative for California. The findings conveyed the high level of importance other countries place on the acquisition and development of digital literacy skills, “Among many countries, whether considered developed or developing, there is substantial acknowledgement of the importance of digital literacy as it relates to economic development, productivity, cultural advancement, or social cohesion.”⁹ Furthermore, the Asian Development Bank’s Long-Term Strategic Framework is explicit in its valuing digital literacy skills, “Those countries which have a clear policy objective to develop local ICT expertise and know-how and which align programs such as education, skills and digital literacy in support are most likely to achieve that objective with resulting benefits to their communities, businesses and public administration.”¹⁰

The following delineates demonstrations of this approach, its impact, and lessons that we have applied to the development of the NDLI:

South Korea

South Korea, which began to develop a national broadband strategy as early as 1987, has focused on developing, expanding, and promoting ICT infrastructure and use.¹¹ With the creation of the National Information Society Agency, South Korea

⁹ California Emerging Technology Fund. “California ICT Digital Literacy Policy Framework.” November 2008.

¹⁰ Ibid

¹¹ Li, Chieh-yu and James Losey. 100 Megabits or Bust! An Overview of Successful National Broadband Goals from Around the Globe.” New America Foundation. September 2009.

began a process of implementing ICT initiatives, including the Korean Information Infrastructure, Cyber Korea 21, e-Korea Vision 2006, and IT Korea Vision 2007. Embedded in this government strategy for national broadband development and use were programs directed to spur digital literacy efforts and demand.¹²

As a result of these initiatives, the South Korean government created agencies specifically designed to foster increased demand, access, and digital literacy among active consumers and sectors of the population yet to engage in ICT tools. These agencies include the Korea Information Security Agency, the Korea Internet Safety Commission, the National Internet Development Agency, and the Korean Agency for Digital Opportunity. Among the multiple priorities and goals with which these agencies were charged with promoting and accomplishing, digital literacy programs were a primary focus of their charters.¹³

Through these agencies, South Korea has offered and implemented digital literacy programs that have experienced enormous demand and realized significant results. Among these efforts, the National Internet Development Agency initiated programs in 1996, 1998, and 1999 directed at fostering digital literacy.¹⁴ Specifically, the South Korean government, through these agencies, implemented the “Ten Million People Internet Education Project (2000-2002).” This program provided digital literacy education to nearly a fourth of South Korea’s population. Furthermore, the government worked to offer this program to the elderly and farmers at either at no-charge or on a subsidized basis.¹⁵ A separate program, provided through South Korea’s “Cyber 21” initiative, was designed to provide digital literacy skills training to one million housewives. The 20-hour course was offered at a discounted price, and overwhelming demand led to 70,000 women enrolling within the first 10 days.¹⁶

For more than 20 years, South Korea has been developing and implementing a national broadband strategy with the objective of ubiquitous broadband penetration and use. Built into this evolving plan are criteria necessary for its efficacy, including network expansion, increased speeds, content development, e-commerce opportunities, integration into the educational system, and e-government services. However, the South Korean government has long recognized that having citizenry with digital literacy skills is critical to the integration and utilitarian potential of broadband and ICT tools. Consequently, agencies and programs have, and continue to be, developed and implemented with the goal of enhancing digital literacy skills among the South Korean population. Such a perspective, which has

¹² Atkinson, Robert D., Daniel K. Correa and Julie A. Hedlund. “Explaining International Broadband Leadership.” The Information Technology and Innovation Foundation. May 2008.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Schofield, Jack. “Miracle Workers: In just five years, South Korea has shown the world what the broadband future looks like.” The Guardian. October 2002.
(<http://www.guardian.co.uk/technology/2002/oct/17/linesupplement.newmedia/print>)

driven more than 99% of South Korean students online for educational purposes, is clearly an investment in the country's future.¹⁷

European Commission

Many European nations have benefited from digital literacy initiatives, either through government programs or the private sector. As is the case with Asian nations, European countries recognize the significance of having a skilled, digitally literate populace who are well positioned to access and leverage ICT tools. To this point, the European Union has stated the need to: "(1) Develop optimal policies to prepare new workers and support current ones as they face the challenges of ICT led change and globalization; (2) Reduce the digital divide and ensure that its citizens are digitally literate; and (3) Provide a coordinated and timely response to implement change successfully."¹⁸

Though there are programs designed to teach and improve digital literacy skills to the general public, most of these digital literacy skill development initiatives focus on certain vulnerable populations. These groups, as a result of a limited digital literacy skill set, have yet to reap the benefits of the digital age. Primarily, populations of greatest concern include the elderly, unemployed, women, immigrants, and youth.

To better understand what programs have been most effective, the European Commission, as part of "i2010," a strategy designed and implemented by its member states to foster greater ICT inclusion and utility, commissioned a report which analyzed more than 450 digital literacy initiatives at work in Europe. The project and subsequent report, "Supporting Digital Literacy: Public Policies and Stakeholders' Initiatives," was presented in stages, with the final analysis consisting of the 30 projects exhibiting the best practices. The four criteria used as guides in this determination are: (1) Effectiveness; (2) Impact on disadvantaged groups; (3) Innovation; and (4) Proven scalability.¹⁹

Below is a brief summary of a few of the 30 programs highlighted in the report:

- Look@World – This program, targeted at the general population, leverages public-private partnerships to provide digital literacy training to more than 100,000 Estonians.²⁰
- Aangename Kennismaking med de Computer – This program, focused on the unemployed, delivers a highly individualized approach related to attention

¹⁷ Atkinson, Robert D., Daniel K. Correa and Julie A. Hedlund. "Explaining International Broadband Leadership." The Information Technology and Innovation Foundation. May 2008.

¹⁸ California Emerging Technology Fund. "California ICT Digital Literacy Policy Framework." November 2008.

¹⁹ Hilding-Hamann, Knud Erik, Morten Meyerhoff Nielsen, Jan Overgaard, and Kristian Pedersen/Danish Technological Institute/European Commission. "Supporting Digital Literacy: Analysis of Good Practice Initiatives, Topic Report 3: Final Report." February 2009.

²⁰ Ibid.

- and tutoring. The program has helped more than 40,000 people acquire necessary digital literacy skills, resulting in increased employment.²¹
- Seniornet Sweden – Digital literacy skills are taught by engaging senior citizens, more than 20% of whom are over the age of 75, around social networking activities, including connecting with friends and family. Through local branches, this association has trained more than 50,000 people.²²

As a result of this sweeping analysis, the European Commission learned some valuable lessons about the elements necessary to include in a digital literacy initiative, as well as areas that remain in need of improvement. The following are some of the recommendations:

- Context
 - “Digital media and tools, facilities and usages are profoundly interconnected to national and local economic, social and cultural structures...Unless digital literacy actions are grounded in the social, cultural and economic realities of the locality, delivery of basic digital literacy skills cannot be translated into success at the level of relevant and effective usage and innovation, which can make an impact on the root causes of exclusion or marginalization.”²³
- Motivation and Awareness Raising
 - “It is vitally important that new media are meaningfully connected to people’s individual and social needs and purposes and to their everyday lives. Awareness raising campaigns, particularly for groups at risk of exclusion such as older persons, migrants, minority groups and any other group in society that is at risk of marginalization, should aim to increase motivation by demonstrating and making evident the benefits of using digital technologies in their personal and professional lives; and by demonstrating the value of new media for learning, cultural development, access to services, entertainment, communication, creative expression, etc.”²⁴
- Teaching and Learning
 - “Research shows informal learning to be an important means of acquiring digital skills. Providing opportunities for increased informal learning within digital literacy initiatives should therefore increase their effectiveness (for instance, developing networks and communities of common interest, which can become loci of informal learning to acquire and upgrade digital literacy). Encouraging individuals to share internet connectivity, develop software and

²¹ Ibid

²² Ibid

²³ Danish Technological Institute/European Commission. “Digital Literacy European Commission Working Paper and Recommendations from Digital Literacy High-Level Expert Group.” November/December 2008.

²⁴ Ibid

online content, or establish virtual communities, can enable informal learning as well as practical and community-related activity. Formal educational structures should not be ignored...Awareness of digital literacy initiatives and their value should be incorporated in teacher education programmes [sic]."²⁵

- Content, Services, and Usability
 - "Once connected to the digital world, each individual user must be empowered to source and interact with content, services and websites of choice...It is important that the capabilities and prior experience of users are taken into account, and also the particular difficulties particular groups may have in using content and services. Varying degrees of difficulty should be addressed, including the needs of those requiring assistive technology."²⁶
- Critical Skills
 - "Such an approach implies the promotion of critical and creative thinking in users, a focus on quality of usage, and a consequently broader and more critical approach to the measurement and evaluation of digital literacy achievements."²⁷
- Evaluation, Research, and Benchmarking
 - "Questions of digital and media literacy and e-inclusion can no longer be artificially separated from wider questions of social inclusion or engaged citizenship. As 'quality of use' becomes a dominant theme, it will be necessary to develop appropriate criteria, evaluation methodologies and benchmarks that can be used effectively to target resources to areas of need and to measure impact and value for money."²⁸

A significant, if not primary, lesson from the Asian and European approach, both philosophically and programmatically, to digital literacy is that it is a critical skill that must be cultivated by the citizenry. Without active initiatives providing digital literacy skill development trainings, disadvantaged groups will fall further behind the rest of society. These two regions of the world recognize that the creation of two classes of digitally literate citizens will harm the individual's and nation's prosperity.

²⁵ Ibid

²⁶ Ibid

²⁷ Ibid

²⁸ Ibid

V. Targeted Communities

The NDLI will focus on those communities that need digital literacy the most, providing targeted digital literacy efforts and content geared at overcoming specific obstacles prevalent in that community. A high-level overview is discussed below.

Low-Income and Minorities:

Low-income individuals constitute the bulk of our focus. There are a number of strategies to employ in targeting these groups. We will meet these people where they are through on-the-ground, in school, and online and mobile platforms. We will teach through content aimed at varying literacy levels and recognizing their interests in education, health, and employment. Making the Internet “cool” to this population, especially to youth, is also important, as is tying that attitude to the life-sustaining content available on the Internet. Additionally, we will capitalize on demographic differences in device usage; for instance, a traditional affinity of African-Americans to text messaging provides us with insights on how to exploit the mobile platform.

English as Second Language (ESL)

One Economy has been developing solutions to overcome the dearth of content and digital literacy programs for the ESL community for nearly a decade, and most of our content is available in Spanish in addition to English and other languages. In addition, we have run Digital Connectors programs spearheaded by bilingual or Spanish-speaking youth from the communities that need to be served. To overcome the language barrier, we will provide bilingual speakers in Spanish-speaking environments and deliver online and mobile digital literacy content in both English and Spanish. We will also address contextual needs specific to the Hispanic population.

Elderly

As mentioned previously, seniors often consider the Internet irrelevant to them, too difficult or awkward to approach, or full of viruses, SPAM, and rip-offs. They often consider online and mobile tools to be intimidating or not worth their time. To combat these issues, we will develop curriculum to reach these individuals, along with specifically-targeted media to deal with their fears and educate them on the benefits of being connected. Additionally, we will highlight their greatest needs, including health content and communication with family members. Utilizing children, or grandchildren, to connect with older Americans is also a very effective strategy, one that British Telecom has promoted through their website “Internet Rangers.” We will develop messaging, curriculum, and online and mobile tools to incorporate this powerful lever.

Americans with Disabilities

Digital literacy programs for these groups needs to be focused, with training curricula geared toward websites, applications, and mobile venues that overcome barriers specific to the disability. Persons with disabilities can then be directed to

content and applications that fit their needs. Additionally, a prong of our digital literacy effort should be directed to making the content, application, and device producers aware of the hurdles and ways for them to help overcome the barriers. Using other persons with disabilities as teachers and community leaders will also help provide comfort for this population as they acquire requisite skills. Awareness of the necessity of gaining employment through the digital medium will accentuate the need to be online.

Tribal Communities

Elizabeth Furse, a member of our Board of Directors and former Congresswoman from Oregon, has been an advocate and activist for tribal communities for years, and she has helped to link us with tribal populations and better understand their needs. We will continue to lean on her leadership with tribal issues and connections to tribal communities, along with representatives that we will seek advice from and/or bring into the BBOC. In terms of awareness, education, and content, contextual relevance is vital to this community, so the curriculum will be specifically honed to meet their needs. Furthermore, tribal communities will often need access solutions, in addition to digital literacy, due to their remote location.

VI. Digital Connectors

As mentioned previously, One Economy has had great success with the Digital Connectors program, delivering educational and training curricula to over 3,000 Digital Connectors between the ages of 14-21 and then having those youth provide over 56,000 hours of community service to their low-income community. This program has provided countless Americans with the skills needed to overcome the digital literacy hurdle, and it will be a great asset to the NDLI.

The Digital Connectors curriculum is aimed at creating technology ambassadors to serve as catalysts for broadband adoption. Community service in or near the communities in which they live is a core requirement for participation in the program. This requirement creates a sense of ownership, if not a burden, to that Digital Connector and results in a very high level of service that is geared to the specific and often critical needs of the local resident.

At the center of the Digital Connectors programs are youth and young adults, who will be taught the core curriculum, tailored to their low-income and underserved community, then act as technology ambassadors and front-line technical support for that community. Since they are already part of the community that they serve in as part of their community service requirement, they feel a sense of ownership and empowerment, along with the burden of the community that they are serving. This, combined with the knowledge that they have gained, is a powerful source for digital literacy growth.

The benefits of the Digital Connectors program are not merely allotted to the community that they serve; Digital Connectors are given vital skill sets to prepare them for the workforce and the opportunity to expand even deeper into software development, digital media creation, and entrepreneurial training. With the NDLI, the Digital Connector program will expand its reach into the lives of these young adults, readying them to be producers and entrepreneurs in the global marketplace. We will increase our integration with the private sector, providing expanded opportunities for speakers, field trips, mentors, internships, and employment. By this ground-up investment in our underserved youth, we are not merely serving them, we are also improving our nation's standing in the creation, distribution, and utilization of technology.

In this section, we explain how the Digital Connectors program will be tailored in the NDLI in order to quickly scale our efforts to the expanded target markets in urban and rural America.

Scaling via a Social Franchising Model

One Economy currently delivers our Digital Connectors programs in 60 locations, and we have developed an innovative social franchising model that will allow the NDLI to quickly scale around the country. In advance of the American Recovery and Reinvestment Act opportunity, we developed a groundbreaking partnership called

the Broadband Opportunity Coalition (BBOC). Spearheaded by One Economy, the BBOC consists of the National Urban League, National Council of La Raza, Asian American Justice Center, League of United Latin American Citizens (LULAC), National Association for the Advancement of Colored People (NAACP), and the leading minority research and public policy think tank Joint Center for Political and Economic Studies. The BBOC, with the potential addition of more parties, provides a unique, expansive distribution and dissemination model for Digital Connector activities. Every local partner provides match and in return plugs into a comprehensive system of online and in-person program resources, including curriculum. We have also created an online social network for the Connectors themselves so that they can leverage social media to share best practices, gain skills, and communicate with each other. For the NDLI, we will also host regional and national conferences to bring Connectors together for inspirational speeches, contests and awards, private sector and government involvement, and mass training appropriate for certain non-curriculum elements.

Geographic Expansion: Urban

In cities with more than 100,000 people, we propose expanding our reach to 608 locations in 273 cities. The number of Digital Connector programs per city is determined as follows:

- 5 cities with population > 1,500,000 people = 20 programs
- 10 cities with population 750,000-1,500,000 people = 10 programs
- 20 cities with population 500,000-750,000 people = 5 programs
- 70 cities with population 200,000-500,000 people = 2 programs
- 168 cities with population 100,000-200,000 people = 1 program

We recommend 15 Connectors per program, with each Connector serving for one year. Each Connector would receive a \$1,500 stipend, a laptop computer, a wireless broadband connection (if possible), a low-cost video camera, and a few other items.

Geographic Expansion: Rural

Due to rural population density, we propose utilizing a blend of virtual and on-the-ground programs. For on-the-ground programs, we will have national trainers travel to communities several times a year to train new Digital Connectors. We plan on placing Digital Connectors in as many as 500 communities, with 10 youth in each community per year, a new cohort trained each year. Each Connector would receive a \$1,500 stipend, a laptop computer, a wireless broadband connection (if possible), a low-cost video camera, and a few other items. Additionally, we will have an online, self-paced Digital Connectors curriculum in order to reach many individuals outside of these 500 communities.

Targeted Entities

Through the NDLI, we will expand the Digital Connector's reach into underserved and vulnerable communities nationwide by increasing our target audience for the program. We will deliver targeted curriculum geared to the needs of different

populations nationwide. As discussed previously, we will target the following populations:

Low-Income and Minority Populations

Though our focus on these communities remains central to our approach, we will greatly expand our reach. To expand our presence in urban communities nationwide, we will utilize our BBOC partnership. The BBOC member organizations are uniquely qualified to lead our expansion and implementation into underserved urban areas and minority populations. Furthermore, through their affiliate locations, we have a built-in network of community organizations at-the-ready to implement Digital Connectors programs with curriculum tailored to the individuals and families they serve. We will also significantly increase the rural presence of the Digital Connectors program. We will employ online virtual teachers who will lead the Connector participants through the program, allowing these instructors to facilitate programs in multiple locations.

Children and Young Adults Aged 11 to 23

In order to increase our reach among our target audiences exponentially, we will offer the Digital Connectors program to youth in additional age ranges. Our current model allows for youth participants in the age group of 14-21. With the NDLI, we propose dividing the program into three segments:

- Middle School
- High School
- Young Adult

We will develop three different curricula targeted at each of the three groups. For example, high school and young adult Connectors would be responsible for more community service hours, and middle school participants may have curriculum more focused on actual technology training. The expansion of the age parameters of eligible participants will foster increased digital literacy training among youth and young adults as well as increased community service hours spent teaching their community members about technology. It will also allow us to differentially target educational versus employment resources.

English as a Second Language

We also propose expanding our efforts toward populations where English is a second language. We would develop additional curriculum tailored to this population. One Economy's public-purpose media properties, which are frequently utilized by the Digital Connectors, are already offered in English and Spanish. Through our BBOC partners, especially La Raza and LULAC, we will reach deeper into these communities to deliver contextually appropriate curriculum and affect broad population swaths. We will develop a compendium of the life-enhancing and life-sustaining Spanish sites on the Internet and create more producers of Spanish-language content. The need,

as discussed previously, is extraordinary, and the digital literacy barrier is immense.

Seniors

We also propose developing curriculum for Digital Connectors program participants to help them hone the skills necessary to reach out to seniors in their communities. One Economy's Digital Connectors have previously performed their community service hours in assisted living facilities. The specialized curriculum will greatly expand our ability to reach this vital and often underserved population. The curriculum will especially focus on the two largest needs among seniors: health and communication with loved ones. As youth are often the greatest stimulant for the elderly community, introducing youth into the senior community as Digital Connectors will help create a behavioral and emotional tie to digital resources.

For the NDLI, we will pilot a senior teaching seniors Digital Connectors program, in senior communities. In these test cells, we will train seniors in the Digital Connectors curriculum, then send them out into their community with small, portable mobile labs. The test will be a good opportunity to judge the comparative returns on investment between youth interacting with seniors and seniors interacting with seniors. Our hypothesis is that the training of seniors as teachers may be more difficult, yet benefits will accrue from co-location. We will put controls in place and a stringent adherence to metrics to adequately judge the results.

Americans with Disabilities

To focus on this group, we will first recruit new members to the BBOC (or a satellite consortium) to provide intelligence and understanding of the major Americans with disabilities communities. We will train both persons with disabilities and without disabilities as Digital Connectors and study the differential impact of these Connectors when they go into the community for their community service, in addition to improvements in their own lives. The curriculum for these populations will be significantly altered to focus on content worthwhile for that population segment, aids, and devices to improve digital utility, along with private sector relationships meant to improve access and provision into these communities. Through our entrance into these communities and our tie to representative organizations, we will also recommend policies to help overcome the digital literacy barrier.

Tribal Communities

In part due to the stewardship of One Economy Board member and former Congresswoman Elizabeth Furse, One Economy has had great success with Digital Connectors programs and content geared to the tribal community, where cultural context is vital in all digital literacy programs. Due to the remote nature of many tribes and the low population density, it has been

difficult to reach as many persons as desired through this program, but the NDLI will allow for this vital expansion. Targeted, contextually-relevant curriculum will be developed for youth in these communities, and the program will be refined on-the-go through a feedback and metric loop. Technology provides an immense opportunity to tribal communities, connecting them to vital education, health, and workforce content and applications to improve their outcomes.

Curriculum will be tailored to rural or tribal communities, and instructors will travel to each site on a semi-regular basis to assess the programs. Finally, we will encourage programs in similar communities with similar curriculum to communicate by facilitating regional conferences on a regular basis.

VII. Digital Educators

For our nation to reach its technological promise, a 21st century school must be at the center of any technology strategy. That school must be an institution that teaches our children digital literacy and lights the spark for many of them to pursue passions and careers in technology, just as the spark has been lit in many of us at a young age to pursue passions in science, math, and literature. A 21st century school should serve as a lever for student to parent collaboration and parent to teacher collaboration using technology, such as in online research and e-learning.

Today's schools, especially those in low-income communities, fall well short of this mark. They are marked by an unacceptably low digital acumen in the student, teacher, and parent. Students in low-income communities suffer from a low rate of broadband adoption in the home, a lack of a digital mentor in their parents, and a low level of digital interaction between their parents and teachers. According to a study that reviewed the parent and teacher interaction with technology, digital involvement by parents in low socioeconomic schools (SES) is nearly nonexistent, with only 9.1% of parents communicating with teachers via email and 4.5% checking the school website for homework information, as compared to 44.4% and 64.2%, respectively, in high SES.²⁹ The study summed up the need with, "... both parents and teachers must possess the means, skills, and the desire to effectively communicate via technology,"³⁰ and a 2006 study identified the causes to be lack of interest, lack of time, language difference, and insufficient finances.³¹

Meanwhile, our education system fails to prepare teachers for the technology challenge. A U.S. Department of Education study found that "[m]ore than half of teachers (52 percent) indicated that additional professional development regarding ways to use technology for new methods of teaching such as cooperative learning would be beneficial," while 48% wanted help in using technology to teach reading and 43% to teach math.³² The barrier is extremely high in leveraging teachers as digital literacy ambassadors to students: "Nearly half of the teachers reported receiving no preservice training regarding ways to promote student technology literacy (48 percent), a significant goal of the EETT program."³³ And that problem is markedly higher among experienced teachers, where 56% with more than 15 years of teaching experience didn't receive preservice training as opposed to only 6% of

²⁹ Rogers, Reenay R.H. and Vivian H. Wright. "Assessing Technology's Role in communication between Parents and Middle Schools." *Electronic Journal for the Integration of Technology in Education*, Vol. 7. 2008

³⁰ Ibid

³¹ Swaim, S. "Make the home-school connection," *Middle Ground*, 9(3), 5. 2006

³² Bakia, Marianne, Eva Chen, Larry Gallagher, Karla Jones, Barbara Means. "Evaluation of the Enhancing Education Through Technology Program: Final Report," U.S. Department of Education Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. SRI International, 2009.

³³ Ibid

new teachers who don't receive this form of training.³⁴ The impact produced by this lack of training weighs inordinately on low SES schools where only 45.5% of teachers post homework as opposed to 86.7% in high SES.³⁵

For students, exposure to technology classes, from the very basic to more advanced coding, application development, and networking courses, is practically non-existent in marginalized neighborhoods. Furthermore, the technology that is present in these schools, including broadband, devices, and innovative educational software, is highly outdated, often falling victim to a system and purchasing agents who are unmotivated or lack the knowledge to bring in the necessary digital tools required to meet the demands of a 21st century experience.

This predicament results in youth that fall behind their higher SES and private school peers and a nation that falls behind comparably aged children in the international arena. In order to prepare America's youth to succeed in a 21st century digital community, we need to put forward a comprehensive program that brings digital literacy into our schools.

Goals of the Digital Educator Program

For the Digital Educator program, the NDLI builds upon and morphs One Economy's time-tested Digital Connector program into a model for our nation's schools. This program will seek to provide the following digital building blocks in schools:

1. Providing digital literacy education to teachers
2. Providing digital literacy education to students
3. Tapping into the technological creation passion and potential in students
4. Creating a digital bridge between students and their parents
5. Overcoming an obstacle to digital purchases in the schools

National Digital Educator Corps

The first line of attack on the digital literacy program is a highly-trained National Digital Educator Corps. We hope to train as many as 250 National Educators, the typical one being a relatively recent college graduate, imbued with the passion to help teachers and youth and perform national service for the country. One of the requirements for their participation will be that they have a strong grasp of digital literacy skills and technology. These individuals will undergo two weeks of intensive training in a curriculum designed to teach them how to train teachers or administrators to become Digital Educators in their school.

These full-time NDLI employees will then conduct two-day training sessions for Digital Educators and serve as a future support system for the Digital Educators that they train. National Digital Educator Corps participants will be located in the region

³⁴ Ibid

³⁵ Rogers, Reenay R.H. and Vivian H. Wright. "Assessing Technology's Role in communication between Parents and Middle Schools." *Electronic Journal for the Integration of Technology in Education*, Vol. 7. 2008

they serve and often on the road, traveling to the schools where they have placed Digital Educators. These individuals will also serve as a feedback mechanism, providing on-the-ground insight to inform evaluations and adjustments.

The National Digital Educator Corps will conduct 200 sessions over two years and train as many as 250 persons per session (multiple trainers will lead each session), thereby producing up to 50,000 Digital Educators.

Digital Educators

Though Digital Educators will also generally be younger teachers or administrators, teachers or administrators of all ages will be eligible. After having taken the training program and received certification, they will conduct digital literacy classes, during and/or after-school, to students and even other teachers or administrators. (Teacher and administrator attendance could be mandatory or voluntary, but student attendance should be mandatory.) In addition to providing this training and performing their everyday teaching or administrative roll, Digital Educators will serve as “go to” persons within the school to address day-to-day digital literacy questions from children and staff or provide direction to the appropriate resources.

Digital Educators will also serve as digital literacy advocates to parents. They will offer overviews or training sessions to parents of the technology that their student is using, emphasizing opportunities for student-parent collaboration through digital means. They will help walk parents through Internet research and direct parents to online homework, as available. They will also provide or direct parents to digital resources that will help their lives, such as financial literacy, online tax preparation, online safety tools, government services, and employment resources.

A Digital Educator should be the technology ambassador within the school, much as the Digital Connector is a technology ambassador in the community. They will not only be digital literacy experts in their school, but they will also advocate technology and provide enthusiasm for technology adoption. The National Digital Educator Corps will continually provide the Digital Educators with information about the newest digital tools along with the means to make judgments about these tools. Armed with this knowledge and the pipeline for further information, they will serve as a resource for technology purchasing agents in the school to help overcome the barrier to digital acquisition and adoption.

Digital Educator Partners and Curriculum

New curriculum will be developed specifically for the Digital Educator program. Broadband Opportunity Coalition members, the Department of Education, and the National Education Association, along with innovative non-profits such as Common Sense Media and the Network for Teaching Entrepreneurship and private companies such as Apple, AT&T, Google, Amazon, and Microsoft will be enlisted to contribute in developing curriculum, gaining buy-in, and operationalizing the program. One Economy will leverage our relationships with the private sector to make a substantial impact and gain in-kind contributions to the program.

VIII. Online and Mobile Digital Literacy

To meet people where they are, when they most need the digital literacy assistance, a key element of the NDLI will be creating, distributing, and promoting easy-to-use, multilingual online and mobile content delivered at a low literacy level. This content (and applications) will help guide individuals as they attempt to utilize digital devices, log onto digital networks, or access digital content. One Economy has been creating content for these audiences for years, and an online and mobile digital literacy effort will be a targeted expansion of our Beehive (thebeehive.org) and Public Internet Channel (pic.tv) efforts.

Online and mobile content will include information that helps new users of technology to understand the basics, but in practical ways that catapult them from non-users of technology to effective users of technology. These online and mobile digital literacy components will be a pathway to access and, consequently, to the life-enhancing and life-sustaining content that will enable them to take advantage of educational, health, job, emergency, and e-government resources, in alignment with Administration and FCC goals.

Online Content

In addition to computing and web browsing basics, online content will cover:

Effective Searching

The key to efficient and practical use of the Web is understanding how to find what you are looking for. Search engines have become increasingly refined in how they respond to user queries, but new users still need to understand the best ways to structure queries, identify paid versus organic search results, and control safety settings. A simple session watching an untrained youth, adult, or senior citizen attempting to resolve an Internet search, as opposed to an experienced user attempting to resolve the same search, shows the heightened frustration, lost productivity, and reduced return on a search with the untrained user. Simple guidance, via content, application intermediaries, and training, can greatly alter the experience and deliver enhanced satisfaction to the user.

Using the Internet for Life-Enhancing Content

Studies have shown that low-income users of the Internet are more likely than others to use online content to improve outcomes around employment and education, and One Economy has built action-oriented, life-enhancing content for this audience for nearly a decade. We have found that content that deals with personal finance, health care, education, employment and housing increases adoption rates for broadband, and it creates incentive-driven opportunities for new users to understand the power of this technology. The end result is the true objective of broadband and the Internet: an increase in Utility in the areas that matter most to the target demographic.

A few examples of this approach includes training users on how to:

- File taxes and collect on the Earned Income Tax Credit
- Search for a job, using online tools such as resume builders and job searching sites
- Determine eligibility for free or low-cost health insurance and teach them how to obtain it
- Find the best homework help content online, so that parents can take an active role at home in helping to educate their children
- Create budgets for the family via online budget tool
- Unravel the complexities of homeownership and how to avoid foreclosure
- Stay out of long lines for government services by filling out forms online

Internet Safety

One Economy has developed a significant array of content over the years on its web properties to help families use the Internet productively and safely.

Through a mix of interactive features, practical tips, and downloadable tools, we have been able to help thousands of people understand how to protect their computers, their identities, and their children from online predators and objectionable content. Just as important as the knowledge they gain is the increased ease with which they will traverse the digital world. As with all components of the NDLI, Internet safety lessons will be targeted to the appropriate segment: for instance, children will be given an education about predators and dangers in the social networking world, while seniors will be alerted to scams and SPAM that tend to target or scare this age group.

Social Media Applications

In order to take full advantage of the power of the Internet, users must become acclimated to the world of social media and it's applications. Ubiquitous tools such as Facebook, My Space, You Tube, and Twitter have become as central to people's online experiences as search engines. For our target audience, in particular, social media offers opportunities to expand the audience of a small business, communicate with loved ones that may live out of the country, or present rationale for seniors to be online. As a result, many of these tools also help to provide the best initial incentive toward adoption.

Online and mobile digital literacy content will cater to different learning modalities through the use of multiple media delivery vehicles, including audio, video animation, and illustration. All digital literacy content will be delivered at a 6th-grade reading level, and all content will be available in English and Spanish.

Mobile Platform and Applications

Wireline Internet connections are no longer the sole platform for practical online communications and information gathering. Nearly all mobile phones have at least some minimum ability to transmit data through SMS technology. Phones are

becoming much more powerful, with robust web browsing, audio capabilities, cameras, and tens of thousands of other applications available on “smart” phones.

We will deliver curriculum in-person, online, and over-the-phone to help new users tap into the power of mobile devices. By targeting the most popular devices with deep, rich content and explaining other basic functionality in generic terms, we will ensure that the greatest number of people receive the most relevant information for their particular device.

We should also use mobile digital literacy as an adoption vehicle for advanced mobile devices in order to overcome gaps in service and to bring them into the global marketplace, where 24/7 access will soon be the norm. The good news is that these groups are already starting to make that transition themselves. In 2008, *Wired* magazine illustrated this point: “The fastest growth in iPhone sales this summer came from households with incomes below the median income. iPhone ownership rose 48 percent from June to August among households earning \$25,000 and \$50,000 a year, likely due to the drop in price to below \$200. Adoption of smart phones in this segment grew 16 percent over that period, ahead of the market average of 12 percent.”³⁶ Meanwhile, Pew’s John Horrigan found that African Americans are “the most active users of the mobile Internet,” with 48 percent having “at one time used the Internet on a mobile device.”³⁷ Today, that mobile data access is most often via text messaging and often used as a substitute for a lack of broadband connectivity in the household, but it also points to the great opportunity in the mobile arena.

The main content and delivery mechanisms for mobile digital literacy through the NDLI will include:

PC and Mobile Online Device Tutorials

Through a series of links or menus, users will be able to quickly identify their device, carrier plan, and operating system (OS) to unlock easy-to-use tutorials on the basic functions of their mobile devices. This information will be rendered in the context of practical activities for our target audience, not an exhaustive user manual.

Text Message Tips

On the mobile device itself, users will be able to use the most basic mobile technology, SMS (text messaging), to receive tips and instructions on a number of important topics including basic device functionality, plan costs and billing practices, etc. Through the use of “waterfall answers,” users will be able to easily find the appropriate topic area and text back-and-forth to

³⁶ Keane, Meghan. “Study: iPhone Users Not All High Earning Tech Geeks.” *Wired*. October 2008. (<http://www.wired.com/epicenter/2008/10/study-iphone-us/>)

³⁷ Horrigan, John. “Wireless Internet Use.” Pew Internet and American Life Project. July 2009.

drill through options that will identify their type of device, plan, and OS as well as select the relevant topic they want more information about.

Smart Phone or Advanced Mobile Phone Applications

For those users with smart phones or similar mobile products, we will develop applications (on multiple popular platforms) that will allow users to input settings specific to their carrier, device, and usage patterns. They will then be able to receive customized help on the practical usage without needing access to a data connection. Such applications will stimulate knowledge and the usage of applications, the popularity and utility of which has been and will continue to accelerate over the coming years.

Amazon's M-Turk (and other Crowdsourced Solutions)

Amazon's M-Turk uses researchers who are motivated by small payments to answer basic questions. The NDLI would utilize M-Turk and/or other crowdsourced customer service mechanisms to deliver easy-to-understand solutions to problems not covered by our mobile digital literacy efforts included above. This nimble solution will be able to deliver customized answers to the pressing questions that inhibit digital adoption. Delivered contextually and modified to meet the operating systems dictated by the individual, this ubiquitous distribution venue will also extend the reach of the NDLI to any person who needs support.

IX. Public Awareness and Education Campaign

Goals of the Campaign

To support the NDLI and maximize its benefits, we propose an extensive public awareness campaign to:

1. Provide awareness of the NDLI
2. Educate consumers, primarily the target groups, about the necessity for digital literacy
3. Direct people to Digital Connector, Digital Educator, and Online and Mobile Digital Literacy resources

Leveraging the BBOC

(Note: One Economy spearheaded the creation of the Broadband Opportunity Coalition (BBOC) specifically to maximize the opportunity presented by the American Recovery and Reinvestment Act (ARRA). Whether this group is called the BBOC or another name in specific reference to the NDLI will be broached at a later date. For the purposes of this proposal, BBOC will be used as the working name.)

We propose leveraging the BBOC to launch an integrated national public education and on-the-ground awareness initiative. Current BBOC members coupled with new members specifically chosen to target seniors, Americans with Disabilities, tribal communities, and the education sector will help the NDLI deliver a targeted media strategy to meet the goals of the NDLI and the awareness and education campaign. Each member will have input as to the creative, targeting, and media strategy for their specific community, as well as contribute to the NDLI's overall message.

Additionally, the BBOC will help the NDLI gather matching funds in terms of media buys and creative and production support. In One Economy's ARRA application for adoption funds, on behalf of the BBOC, we were able to gather over \$17 million in radio, television, and online support, enabling us to bring over 40% in matching funds to the application.

Creative Strategy

As discussed above, each BBOC member will have input into the creative strategy specific to their target group and to the overall NDLI campaign. The NDLI will spend the bulk of its efforts discussing the life-enhancing and life-sustaining benefits of digital use, primarily the benefits derived from gaining access to content and applications around education, health, employment, the environment, government services, and emergency preparedness. It will describe the risks of being left out of the digital world, such as the difficulties in finding a job without using the Internet, getting an education without being able to research online, and the need for on-the-go resources on your mobile device.

Due to the heavy targeting done toward youth and minority communities, the NDLI will not only emphasize the importance of life-enhancing and life-sustaining content, but it will also focus on the benefits and advantages of broadband usage in

a 21st century lifestyle and utilize positive role models who will be able to make digital literacy “cool.” By using humor and educational approaches as well as featuring athletes, musicians, and the faith-based community, we will build awareness while also teaching people about their options to subscribe or to get support.

Respected Hollywood producer and director and current head of One Economy’s V-Studio Robert Townsend and others will guide and produce the Public Service Announcement (PSA) campaign. At the forefront of African-American cinema for 30 years, Robert produced over 20 projects in film and television and revived the Black Family Channel to reach 12 million U.S. households. The PSA campaign will be developed for TV, radio, mobile phones, and the Internet, targeted to multiple ethnicities, at appropriate literacy levels, and available in multiple languages.

All PSAs will also feature calls-to-action around the online and mobile digital literacy efforts. Provided our target audiences have online or mobile access at home, in the school, or in community centers, they will be able to access these resources where they are.

Media Strategy

The NDLI campaign will utilize major and local media to both complement and extend the reach of the on-the-ground Digital Connector and Digital Educator resources. Individuals will be directed to those on-the-ground resources, where appropriate, and to online, mobile, and other virtual digital resources that they can access immediately. BBOC member organizations give us tremendous reach into our target markets and provide a large number of computer centers. These centers can be accessed when at home, in school, or mobile provision is not sufficient or when a group training session is needed. Payments for BBOC partner programs are budgeted at approximately \$30 million for research, development, creation, and dissemination.

In addition to our ARRA efforts with the BBOC, One Economy has also successfully deployed PSA campaigns in the past. For instance, in 2009, we teamed up with the United Way and a coalition of community partners for a 51-city, 16-state education initiative that used technology, media, and on-the-ground activities to help approximately 667,000 individuals file taxes for a collective \$820 million in refunds. Thousands of these individuals used One Economy’s Beehive to receive their Earned Income Tax Credit (EITC).

On-the-Ground Outreach

In the 273 urban centers where the NDLI will have 608 Digital Connector programs and 18,240 Digital Connectors and in 500 rural communities where the NDLI will have 5,000 Digital Connectors, we will use this on-the-ground movement to deploy the awareness and education campaign. This campaign will employ Digital Connectors to serve as youth technology ambassadors, build awareness, educate their communities, and leave behind

support materials by way of brochures and flyers that will provide information on the NDLI. Digital Educators will do similar awareness and education work in the schools, including to parents of school-age children. This unprecedented grassroots effort will reach communities where the vast majority of our target population is located, especially due to the population density in urban centers.

The collective resources of the BBOC currently reach 30% of the U.S. population, extending grassroots efforts into the national arena, and that number will be buttressed through additional members. Our strategy has been to reposition the BBOC and its members into broadband adoption support organizations that will operate and distribute programs and content to improve digital literacy and adoption rates. They will use time-tested and state-of-the-art education methods to increase broadband adoption in the communities they serve, and One Economy has already begun the process of readying these organizations for adoption activities, due to our ARRA grant application efforts. All grassroots activities will intentionally promote and facilitate usage of NDLI programs, including relevant content and computer centers.

Mass Media

Our mass media campaign will deliver both a national message and a targeted message into select communities to ensure a very high level of education and awareness, directing individuals to appropriate resources. The budgeted amount is a placeholder, due to the need to get a recommendation to the FCC quickly, but we estimate an outlay of \$30 million in funds per year to deliver an integrated television, radio, out-of-home, newspaper, online search, and mobile advertising campaign. A “surround the customer” strategy will be employed primarily in urban communities, which will receive the bulk of the dollars in order to best leverage funds and deliver a positive return on investment. Direct response and national media will be used to reach customers outside of urban communities.

As mentioned above, One Economy was able to bring over \$17 million in matching television, radio, and online funds (primarily from Comcast, Google, and the National Association of Broadcasters) for our ARRA application. We would plan on leveraging these relationships and others to support our NDLI efforts and would expect very positive results. However, we have not budgeted that support in our estimate since we have yet to approach these and other sources.

We have chosen methods that are appropriate for our target audience of people of color, low-income individuals, and people who are underserved. We will utilize radio because of its appeal in African-American, Latino, and other targeted communities. For example, in 2007, radio’s reach among Latino consumers was approximately 95% with very high rates for African-

Americans as well. Our media PSA strategy and grassroots outreach will saturate our target markets and surround the customer with messaging targeted to significantly increase broadband adoption. Our strategy is validated by studies, such as the one by the National Citizens Crime Prevention Campaign, which found that a PSA campaign, when combined with “educational materials, training, technical assistance, and hands-on demonstration programs with youth, community groups, and municipal authorities,” generated a 100 to 1 return on invested dollars (<http://www.psaresearch.com/bib4202.html>).

Social Media

In addition to traditional media, we will also utilize social media to help convey the NDLI, as producing content and communicating with digital means is one of the most effective tools to encourage digital literacy. One Economy has already developed the Connectors Club, an online social networking tool for Digital Connectors and Digital Connectors alumni, and will be rolling out additional features over the next few months. The NDLI will expand upon these efforts, launching social media recruitment, education, and retention tools for all targeted communities.

X. NDLI Policy Recommendations

Improving the digital literacy skill-set of the populace of the United States should be a critical component of the National Broadband Plan. Furthermore, institutionalizing programs that teach America's youth digital literacy skills will dramatically improve their capacity for future success. The benefits of cultivating and improving the American population's digital literacy skills will impact many sectors of the country's socio-economic landscape. Clearly, this effort is monumental in scope and scale.

Consequently, this task need not fall to one Department, Agency, or Commission, but rather a combination of all of the above, as well as non-governmental entities. In previous comments, One Economy recommended the formation of a Broadband Progress Board, which would be composed of public and private entities, but chaired by a representative from the FCC.³⁸ It is from this Board that programmatic and policy actions and recommendations, including the design and implementation of the National Digital Literacy Initiative, would flow.

Below are policy recommendations that various departments can implement, as well as programs that can be adjusted and/or expanded to achieve the goals of the NDLI. Each of these recommendations accomplishes at least one, if not all three, of the following goals:

1. Funding of the NDLI
2. Providing complementary resources, human and material, in support of the NDLI
3. Aligning the NDLI with federal agencies and their respective programs

Universal Service Fund

Currently, the Universal Service Fund, operated by the Universal Service Administrative Company (USAC), provides funding for four different categories affected by telephone service: High Cost, Rural Health Care, Low-Income, and Schools and Libraries. Briefly, to fund this program, telecommunication firms pay into a general fund, administered by the USAC, which then disperses the money to the above programs. A similar mechanism can be established to provide financial assistance for multiple purposes related to Internet availability, access, and adoption. Procured funding for these purposes can be accrued through Internet Service Providers (ISPs) contributing, as telecommunication firms do, into a general fund to be administered by either the USAC or a similar entity. Included in this design, the NDLI would be funded, at least in part, by the disbursement of these funds. Digital literacy programs, occurring at various community anchor institutions, could be supported by this program.

³⁸ One Economy Corporation. FCC Comments, "In the matter of American Recovery and Reinvestment Act of 2009: A National Broadband Plan for Our Furutre, Notice of Inquiry – GN Docket No. 09-51." June 2009.

Corporation for National and Community Service

The Corporation for National and Community Service, a federal agency charged with implementing and managing Senior Corps, AmeriCorps, AmeriCorps VISTA, AmeriCorps NCCC, and Learn and Serve America, could either create a separate division, or leverage the current volunteer programs to support and carry-out elements of the NDLI. Primarily, NDLI volunteers would work on two fronts: the community and the schools. As the AmeriCorps and Learn and Serve America programs focus on community and school issues and development, including a mandate that at least 3% of Learn and Serve America programmatic funding go to Native American tribes and U.S. territories, these government programs are well-positioned to aid in the development and success of NDLI.

When working in the community, NDLI volunteers would partner and coordinate with community organizations and anchor institutions to provide digital literacy lessons, earning all the same living allowances, stipends, or educational grants as other Corporation volunteers. On the other front, NDLI volunteers will work with schools to provide digital literacy lesson plans to K-12 students. In addition, NDLI volunteers will train educators who need assistance in either gaining or enhancing their own digital literacy skills and better understand how to transfer this knowledge to their students. As a result of Department of Education efforts to support the NDLI (described below), this program need not be indefinite, for digitally literate educators will eventually populate the teaching corps and will be well-prepared to convey the necessary digital literacy skills on to their students.

Department of Housing and Urban Development

When building an eco-system for broadband adoption, it is imperative that an environment is created which facilitates a productive Internet experience for low-income people. A significant portion of this target audience lives in public or affordable housing. Through the Department of Housing and Urban Development (HUD), there are existing initiatives that can be leveraged toward increasing digital literacy among HUD residents. Listed below are recommendations in which agency resources can be leveraged to build and sustain this environment.

- **Neighborhood Networks** – Neighborhood Networks, though not a direct-grant program administered by HUD, is a HUD program that encourages and supports the development of computer centers within HUD-insured and assisted properties. Through this program, property owners can receive guidance from HUD on how to secure funding, whether it is in the form of public-private partnerships, in-kind support, donations, or possibly apply certain HUD assistance funds toward the creation of a center. The purpose of these centers, and the Neighborhood Networks program, is for residents to become more economically self-reliant by gaining and cultivating computer and job skills, developing microenterprise endeavors, or access information and resources on employment opportunities, health matters, and community issues or events.

- Quality Housing and Work Responsibility Act (QHWRA) of 1998 – The QHWRA is designed to provide and promote safe and healthy affordable housing to low-income families. Within the QHWRA, if funds have been set aside, section 538 provides for the Secretary of Housing and Urban Development to make grants available to public housing agencies, resident management corporations, resident councils, or resident organizations “for the purposes of providing a program of supportive services and resident empowerment activities to provide supportive services to public housing residents or assist such residents in becoming economically self-sufficient.”

Though the granted funds must be used on or near the property, the monies can be used for activities that include or are related to, “...physical improvements to a public housing project in order to provide space for supportive services for residents...the provision of services related to work readiness, including education, job training and counseling, job search skills, business development training and planning, tutoring, mentoring, adult literacy, computer access...”

These two HUD programs are two examples of how already directed funds can be repurposed to promote and teach critical digital literacy skills as defined in the NDLI.

Department of Health and Human Services

In the Department of Health and Human Services (HHS), through the Administration for Children and Families, Office of Community Services, a Community Services Block Grant (CSBG) can be awarded to all 50 states, the District of Columbia, the Commonwealth of Puerto Rico, U.S. Territories, or any federal or state recognized Native American tribe or tribal organizations. In general, the focus of the CSBG is to alleviate the causes and conditions of poverty in communities. Specifically, this program provides assistance to low-income individuals and their communities, including but not necessarily limited to the elderly, the unemployed, at-risk youth, parents, residents of public housing, the disabled, and those navigating the transition from incarceration back into the community. The funds can be used to support services and training programs that address employment, education, housing, financial management, or health issues.

As the Internet continues to be populated with more and more information and resources regarding these issues, it is crucial that vulnerable sectors of society have the ability to engage and utilize this resource. An NDLI program could leverage CSBG funds by designing a digital literacy program which teaches recipient populations the necessary skills to navigate the Internet using the above areas of interest as the programmatic focus.

Department of Education

The Department of Education, due to its purview, can have a significant impact on the digital literacy skills development of American youth, and consequently, the nation. By instituting a formal digital literacy skills curriculum in all publically-funded primary and secondary educational institutions, the Department of Education will better prepare America's youth for higher education and/or the workforce. This curriculum, as outlined above, will provide students with the tools necessary to excel in the classroom, secure higher-wage employment, and manage their personal lives in a healthy, productive manner.

Along with this curriculum design, the following are two Department of Education programs that could provide funding and resource support for the NDLI.

- 21st Century Community Learning Centers (21CCLC) – This program is the sole source of federal funds that are exclusively devoted to afterschool programs. 21CCLC funds support community learning centers which provide students with the following services: tutoring, homework help, athletic and art activities, and general community services. Currently, funds are provided to State Education Agencies, who then grant awards to local recipients. In this setting, the 21CCLC could provide students with additional digital literacy lessons and skill development opportunities.
- Academic Improvement and Teacher Quality Programs (AITQ) – AITQ provides formula and discretionary grant assistance to state and local educational agencies, higher education institutions, and community and faith-based organizations. Funding of these programs and institutions supports activities designed to recruit, train, and improve the quality of America's teachers, develop higher quality elementary and secondary educational institutions, explore, test, determine, and disseminate improved approaches to learning, and to raise the achievement level of at-risk youth. To accomplish these goals, AITQ leverages legislative proposals; engages in the regulatory process, non-regulatory guidance and policies; provides program and budgetary guidance; assists in developing management objectives and goals; provides leadership and technical guidance and assistance to the educational community; acts in an advisory role to state and local grant competitions; and conducts program monitoring and assistance toward achieving programmatic success for grant recipients.

In carrying out the above duties and responsibilities, AITQ, in the past, has engaged other Department of Education offices and programs, as well as other federal agencies. By touching upon all of the areas listed, and having a history of inter-governmental cooperation, AITQ is well-positioned to further the NDLI throughout the educational system and thereby, furthering the reach and effectiveness of this initiative.

Department of Labor

Through the Department of Labor, funds can be leveraged and programs adjusted to develop and incorporate digital literacy skill development courses that aid individuals either entering or re-entering the workforce or seeking to enhance their professional abilities. Two programmatic examples include:

- Employment and Training Administration (ETA) – The ETA’s goal is to educate and improve the American labor force by assisting them with the skills and knowledge necessary to engage in the evolving 21st century economy. Working with state and local workforce development agencies and programs, the ETA seeks to provide individuals and families with job training, financial management services, employment, and labor market information. In order to become qualified, valued employees in the digital age, it is crucial that workforce development programs include digital literacy skill development as a component of their training.
- Job Corps – The Job Corps is a Department of Labor program that has been active since 1964. The mission of this program is to assist young people, ages 16 to 24, in improving their lives through vocational and academic training. Utilizing a network of campuses across the nation, Job Corps provides a career development program for at-risk youth. By training participants in academic, vocational, workforce and social development skills, Job Corps seeks to prepare youth for sustainable, successful careers. Funded by Congress, it would further and enhance the success of this program and be of tremendous benefit to its participants if, as part of the NDLI, a digital literacy skills development component is incorporated into the curriculum.

XI. Metrics

Incorporating measurement practices into the design of a digital literacy initiative is a critical element necessary to achieve success. To date, most initiatives either do not have adequate data collection procedures or established benchmarks in place. When such metrics are incorporated, often they are not comprehensive enough or do not illuminate the programmatic successes or shortcomings in a manner that informs necessary adjustments.

The European Commission report, in their recommendations, recognized the dearth of formal program monitoring and evaluations, and stressed the value and need for these tools, “The study of digital literacy has shown that evaluations of the impact of initiatives are generally underdeveloped...To improve practice and to learn from leading edge practice, the use of formative evaluations should be encouraged.”³⁹

Evaluations and monitoring measures, when incorporated into the framework of an initiative, can capture past results and inform any necessary adjustments or innovations for future success. To this point, the European Commission recommends, “Formative evaluations are typically change-oriented and attuned to assessing in an ongoing way any discrepancies between the expected direction and outputs of the programme [sic] and what is happening in reality. Furthermore, formative evaluations can generate understandings about improvement in programme [sic] implementation.”⁴⁰

To be most effective, we recommend that the metrics and data collection process utilize the 3Us, discussed previously, as guiding principles. In order to capture data that is most informative and insightful, the following areas of inquiry should be pursued:

- *Ubiquity*
 - How many individuals are served by the NDLI?
 - How many individuals from each of the target populations are served by the NDLI?
 - How many individuals are reached by the NDLI’s awareness program? Among those in the target populations?
 - Has the awareness program increased the desire to be digitally literate?
 - How accessible is the program for the target population(s)?
 - What is the cost per person served?
 - What is the cost per person reached by the awareness activities?

³⁹Shapiro, Hanne/Danish Technological Institute/European Commission. “Supporting Digital Literacy: Public Policies and Stakeholder Initiatives, Final Report, Topic Report 4: Conclusions and recommendations based on reviews and findings.” April 2009.

⁴⁰ Ibid

- *Usage*
 - How does the NDLI increase trial and usage of broadband content and applications that are relevant and useful for the user's needs? Among each target population?
 - Has the NDLI made individuals more knowledgeable about accessing digital information?
 - Has the NDLI made individuals more knowledgeable and confident about basic networking issues, such as connecting to WiFi?
 - Has the NDLI made individuals more knowledgeable and confident about basic computer issues?
 - Has the NDLI made individuals more knowledgeable and confident about mobile Internet and applications?
 - Has the NDLI made individuals less fearful of scams and SPAM and given them coping mechanisms?
 - Has the NDLI increased the usage of e-government?
- *Utility*
 - Has the NDLI improved outcomes in content areas such as education, health, employment, civic engagement, or personal communications? Among the target population?
 - Has the NDLI improved education, employment, and entrepreneurship among the Digital Connectors?
 - Has the NDLI lowered costs for provision among health, education, and government because of increased digital usage?

For these guiding principles to be most effective, four characteristics must be taken into account in program design.

1. A thorough in-take evaluation needs to be conducted prior to the program, to set a baseline from which programmatic impact can be measured.
2. Though the evaluation and data gathering design should have a common framework, we recommend that the metrics upon which the initiative is to be measured should be adjusted to consider the different needs and desires of the participants. For example, the objective of an initiative may differ when measuring the impact upon different sectors of society, including the unemployed and low-income.
3. Funding must be leveraged to support longitudinal studies. The inherent benefit in this approach is to understand how digital literacy initiatives impact participants at various intervals beyond the completion of the program. This information and lessons learned can then be applied to future digital literacy efforts.
4. Setting up test cells and analyzing interim benchmarks are vital to make real-time changes. Program evaluation and execution must be nimble.

XII. NDLI Budget (2 years)*

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Digital Connectors Expansion

Urban

Instructor Fees	\$12,160,000
Affiliate Indirect	\$10,944,000
Field Trip Resources	\$1,368,000
Youth Resources	
computer	\$10,944,000
Internet	\$19,334,400
stipend	\$27,360,000
DigiGear	\$3,648,000
Program Materials	\$4,256,000
Training	\$2,432,000

Total Urban

\$92,446,400

Rural / Online

Video Teachers	\$1,800,000
Development of Online Curriculum	\$2,000,000
Youth Resources	
computer	\$3,000,000
Internet	\$5,300,000
stipend	\$7,500,000
DigiGear	\$1,000,000
Travel to conference	\$7,500,000

Total Rural

\$28,100,000

Regional Digital Connector Conferences \$6,500,000

National staffing \$5,674,667

Total National Digital Connectors

\$132,721,067

Senior Digital Connectors

Mobile Lab

Laptops + accessories	\$160,000
Internet	\$212,000
Traveling case for computers	\$6,000

Senior Compensation

computer	\$32,000
Internet	\$42,400
stipend	\$240,000
DigiGear	\$5,000

Local Instructor & Affiliate Indirect

\$76,000

Digital Connector Stipend

\$240,000

Program Supplies

\$240,000

Development of training curriculum

\$100,000

National Staff

\$168,000

Total Senior Connectors

\$1,521,400

Digital Educators

National Digital Educator Corps	\$32,500,000
Training of Nat'l Digital Educator Corps	\$1,400,000
Travel	\$7,500,000
Development of online curriculum & tools to use w/students & parents	\$5,000,000
Regional Trainings	\$18,300,000
National Staff	\$3,349,000

Total National Educators **\$26,649,000**

Online and Mobile Digital Literacy

Online Content Development	\$2,000,000
Mobile	
Device tutorials	\$1,000,000
Multi-platform waterfall SMS campaign	\$5,000,000
Mutli-platform SmartPhone apps	\$2,000,000
Amazon mTurk self assist	\$5,000,000

Total Online and Mobile Digital Literacy **\$15,000,000**

NDLI Awareness and Education Campaign

Campaign Creative Design	\$1,000,000
Production	\$12,000,000
Printing	\$15,000,000
Distribution	\$60,000,000
National Partners	\$30,000,000
Campaign Messaging - Training	\$3,500,000
National Campaign Coordination and Staff	\$4,000,000

Total NDLI Awareness Campaign **\$125,500,000**

Indirect \$57,264,379

Total Campaign **\$358,655,845**

*Costs for metrics assessment not
included